Blog **“Sustainable Land Management in Sub-Saharan Africa: Improving livelihoods through local research”**

NTRODUCTION

Our blog is intended for project staff as well as interested stakeholders from science, policy and practice, to share experiences and mutually learn. It is an opportunity to showcase the multi-faceted nature in which we improve livelihoods and support sustainable land management through local research.

Demonstrating its ongoing commitment to sustainable land management across West Africa, WASCAL recently conducted a scientific field visit to the Guiè pilot site, renowned as a pioneering Sahelian Hedgerow (Bocage) system, a concept led by the NGO TERRE VERTE. Beyond a technical exchange, the visit underscored the powerful role of grassroots innovations in shaping regional climate resilience and land restoration strategies. Leonard Akoba, Charles Lamoussa Sanou and Kwame Oppong Hackman prepared this blog.

BRIDGING RESEARCH AND ACTION: INSIGHTS FROM GUIÈ’S SAHELIAN HEDGEROW INNOVATION

WHY GUIÈ?

The visit was part of WASCAL’s COINS (Co-developing Innovations for Sustainable Land Management) project activities aimed at strengthening its network across West Africa on Sustainable Land Management (SLM). Guiè, located in Burkina Faso’s Oubritenga Province, was chosen for its proven agroecological practices and the long-term success in the implementation of this novel land management technology that reconcile human interest with environmental protection.

WASCAL and AZN teams

Nursery of the Pilot site

WHAT IS THE SAHELIAN HEDGEROW SYSTEM?

Developed to combat land degradation and desertification , the bocage system in Guiè integrates:

- Hedgerows of native trees to protect fields and enhance biodiversity;
- Zaï holes for improved water retention and soil fertility;
- Founfounza techniques inspired by traditional practices of farmers communities in Zimbabwe;
- Crop rotation that prevents nutrient depletion and improves yields;
- Small-scale retention basins designed to capture and store water for agricultural irrigation purposes.
- Microclimatic changes due to hedgerows
- Pest dynamics and soil organic matter in bocage farms

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RESEARCH POTENTIAL

Key data collected at the site include:

- Rainfall trends
- Soil health metrics (in partnership with ECOWAS)
- Crop productivity

Groundwater infiltration in bocage landscapes is highlighted as a research gap by discussion with the site coordinator.

(a)

(b)

(c)

Different practices were implemented in the Sahelian bocage system. (a) Photo of the Zaï technique; (b) Photo of the water collection basin; (c) Fallow used for grazing.

IMPACT ON LOCAL COMMUNITIES

The Guiè farm, now fully restored from degraded land is more than 100 hectares and supports 23 farming households livelihoods. Thanks to TERRE VERTE’s approach, farming families benefit from:

- Increased food security;
- Sustainable income sources;
- Monthly community training and knowledge-sharing;

The AZN Association, which manages the pilot site, extends its mission beyond agriculture to encompass education, healthcare, and reforestation initiatives.

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LOOKING FORWARD: WASCAL × TERRE VERTE AND ITS PARTNERS COLLABORATION

The visit concluded a strong opportunity of mutual interest in formalizing research partnerships. With its real-world and field-tested innovations, AZN Association/TERRE VERTE offer WASCAL a living lab for conducting research on land restoration, agroecology, and community resilience. This is an unique opportunity of collaboration on which both institutions should leverage on. Together, we aim to translate scientific knowledge into action, empowering local communities and securing the future of West Africa’s fragile ecosystems.

PHOTOS

Courtesy of WASCAL

FOR FURTHER INFORMATION

Funded by the German Federal Ministry of Education and Research (BMBF), within the strategy of its platform Research for Sustainability (Forschung für Nachhaltigkeit, FONA), the **INTERFACES** project works with four regional projects – **COINS**, **DecLaRe**, **InfoRange** and **Minodu** – to strengthen the integration, coherence and reach in the area of sustainable land management.

MEDIA

Follow us for updates on the research programme on our website and follow us on LinkedIn and on D-Groups.

PREVIOUS BLOG CONTRIBUTIONS

“Can Insurance Drive Sustainability? Incentivizing Climate-Smart Farming in Northern Ghana”

“SLM in SSA Highlights of 2024 and Outlook for 2025”

“Strengthening Implementation-Oriented Research”

“Science and Stories: A Journey to the 2025 Global Forum for Food and Agriculture”

“Understanding farmers' decisions: activities in northern Ghana”

“Strengthening agricultural resilience in Senegal: key insights from a field mission”

“UNCCD COP16 Side Event: The Role of Youth in Innovation for SLM”

LATEST BRIEFING SERIES

1/2024 - Fostering gender-responsive innovation adoption among smallholder farmers in Africa

LATEST VIDEOS

Combating Gender-based Violence in Northern Ghana’s Rural Areas

Holding duty bearers accountable: Chegu community

Dry Spell: Farmers of Jagrido count their losses, unsure what the future holds for them

Access to potable drinking water: Residents of Koduzhegu rely on dams & dugouts despite health risks

Funding conditions of transdisciplinary research for sustainable development in Africa

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